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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/957,054	09/20/2001	Steven E. Fairchild	P00-3286	5619

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EXAMINER

FIGUEROA, NATALIA

ART UNIT PAPER NUMBER

2651

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/957,054

Applicant(s)

FAIRCHILD, STEVEN E.

Examiner

Natalia Figueroa

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 6, 7, 9-17, 20-24, 26-28, 30 and 31 is/are rejected.
- 7) ☒ Claim(s) 2, 5, 8, 18, 19, 25 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities: Claim 1 (in the response filed in 13 October 2004) appears to end with a comma, please review and make sure it ends with the correct punctuation mark. Appropriate correction is required.
2. Claim 16 is objected to because of the following informalities: Claim 26 recites the limitation "the system of claim 18". There is insufficient antecedent basis for this limitation in the claim. Examiner suggests that claim 16, depends on claim 13. Appropriate correction is required.
3. Claim 26 is objected to because of the following informalities: Claim 26 recites the limitation "said line track". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-4, 6-7, 9-17, 20-24, 26-28 and 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawamoto (USPN 5,590,298).

RE claim 1, Kawamoto discloses a disk drive system having an array controller that receives a write command from a host (column 2, lines 36-37), comprising: a write stack drive to receive said write command and to store write operations within said write command with write stack operations on a non-volatile cache memory (column 2, lines 38-40), and a normal drive to receive said write command and to execute said write operations within said write command (column 2, lines 41-42).

RE claim 6, Kawamoto discloses the said write stack drive comprises metadata to reflect data within said write stack drive (column 4, lines 17-23).

RE claims 7 and 13, Kawamoto discloses a disk drive that executes write commands on a storage media coupled to a normal drive, comprising: an array controller coupled to a disk drive (column 2, lines 36-37), a write stack drive comprising a non-volatile cache memory (column 2, lines 38-40) having a plurality of tracks, wherein said plurality of tracks store data from write stack operations for said write commands (column 2, lines 39-41), a metadata file to identify the data stored within said write stack drive (column 4, lines 17-23) and a normal drive within the disk drive to execute writes operations for the write command (column 3, lines 23-25).

RE claim 3, Kawamoto discloses the write command stores data in a storage media or normal drive (column 2, lines 33-36).

RE claim 9, Kawamoto discloses that the write stack drive mirrors said normal drive (column 2, lines 43-54).

RE claims 10 and 16, Kawamoto discloses a marker sector for each write stack operation stored within said write stack drive (column 4, lines 24-27).

RE claim 11, Kawamoto further discloses the marker sector includes a valid data flag (column 4, lines 27-32).

RE claim 12, Kawamoto discloses the said write commands are received from an array controller coupled to the disk drive (column 2, lines 36-37).

RE claims 4 and 14, Kawamoto discloses the said non-volatile cache memory comprises a plurality of tracks (column 2, lines 39-41).

RE claim 15, Kawamoto discloses a host to initiate said write command to said array controller (Fig. 1, element 11).

RE claims 17, 20 and 22, method claims 17, 20 and 22 are drawn to the method of using the corresponding apparatus claimed in claims 1 and 12. Therefore method claims 17, 20 and 22 correspond to apparatus claims 1 and 12, and are rejected for the same reasons of anticipation as used above.

RE claim 23, Kawamoto further discloses positioning a pointer to another track when said writing is completed (column 8, lines 6-16).

RE claims 24 and 26, method claims 24 and 26 are drawn to the method of using the corresponding apparatus claimed in claims 1 and 14. Therefore method claims 24 and 26 correspond to apparatus claims 1 and 14, and are rejected for the same reasons of anticipation as used above.

RE claims 21 and 27, Kawamoto discloses the method further comprises updating a metadata file when said write stack operations are performed (column 4, lines 32-35).

RE claims 28, 30 and 31, method claims 28, 30 and 31 are drawn to the method of using the corresponding apparatus claimed in claims 1, 13 and 20. Therefore method claims 28, 30 and 31 correspond to apparatus claims 1, 13 and 20, and are rejected for the same reasons of anticipation as used above.

#### ***Allowable Subject Matter***

5. Claims 2, 5, 8, 18-19, 25 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

6. Applicant's arguments, see page 8-10, filed 13 October 2004, have been fully considered but they are not persuasive.

Applicant's argument states "Nothing in this text discloses (or even suggests) using write stack operations in non-volatile memory to store received write operations..." Applicant's argument is not persuasive because there is not sufficient detail in the claims to make the distinctions that are presented in the argument. The "write stack drive" is a disc drive in name only. Clearly the claim can be applied to a "virtual" disk drive like the one in the applied art.

*Conclusion*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 2651

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Figueroa whose telephone number is (703) 305-1260.

The examiner can normally be reached on Monday - Thursday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NFM

  
**DAVID HUDSPETH**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**